

WHAT IS CLAIMED IS:

1. A semiconductor device comprising a TFT containing an active layer having a convex portion or a concave portion in a channel forming region or in the vicinity of the channel forming region.

2. A semiconductor device comprising a TFT containing an active layer having a convex portion or a concave portion in a channel forming region or in the vicinity of the channel forming region,

wherein zero or one grain boundary is contained in the channel forming region.

3. A semiconductor device comprising a TFT containing an active layer having a convex portion or a concave portion in a channel forming region or in the vicinity of the channel forming region,

wherein the number of grain boundaries crossing the channel forming region in the width direction of the channel is zero or one.

4. A method of manufacturing a semiconductor device, comprising the steps of:  
forming a semiconductor film over a substrate;

forming a crystalline semiconductor film by irradiating a laser light to said semiconductor film;

forming a convex portion or a concave portion in a region which is a portion of said crystalline semiconductor film and which later contains a channel forming region;  
and

irradiating the laser light to said crystalline semiconductor film in which the convex portion or the concave portion is formed.

5. A method of manufacturing a semiconductor device, comprising the steps of:  
forming a semiconductor film over a substrate;

forming a crystalline semiconductor film by irradiating a laser light to said semiconductor film;

forming a convex portion or a concave portion in a region which is a portion of said crystalline semiconductor film and which later contains a channel forming region;  
5 and

irradiating the laser light to the top surface and to the bottom surface of said crystalline semiconductor film in which the convex portion or the concave portion is formed.

10 6. A method of manufacturing a semiconductor device, comprising the steps of:  
forming a semiconductor film over a substrate;

forming semiconductor islands by patterning said semiconductor film, each of said semiconductor island having a convex portion or a concave portion in a region which later contains a channel forming region, and

15 crystallizing said semiconductor islands by irradiating a laser light.

7. A method of manufacturing a semiconductor device, comprising the steps of:  
forming a semiconductor film over a substrate;

forming semiconductor islands by patterning said semiconductor film, each of  
20 said semiconductor island having a convex portion or a concave portion in a region which later contains a channel forming region, and

crystallizing said semiconductor islands by irradiating a laser light to the top surface and to the bottom surface thereof.

25 8. The method of manufacturing a semiconductor device according to claim 5, wherein a relationship of  $0 < (I_0' / I_0) < 1$ , or a relationship of  $1 < (I_0' / I_0)$ , exists between the effective energy strength of the laser light irradiated on the top surface of said semiconductor film ( $I_0$ ) and the effective energy strength of the laser light

irradiated on the bottom surface of said semiconductor film ( $I_0'$ ).

9. The method of manufacturing a semiconductor device according to claim 7,  
wherein a relationship of  $0 < (I_0' / I_0) < 1$ , or a relationship of  $1 < (I_0' / I_0)$ , exists  
5 between the effective energy strength of the laser light irradiated on the top surface of  
said semiconductor island ( $I_0$ ) and the effective energy strength of the laser light  
irradiated on the bottom surface of said semiconductor island ( $I_0'$ ).

10. A semiconductor device according to any one of claims 1 to 3 and 5 to 7,  
10 wherein said semiconductor device is incorporated into an electronic device selected  
from the group consisting of a personal computer, a projector, a digital camera, a video  
camera, a head mounted display, a portable information terminal, a navigation system,  
a game machine, an image playback machine and a music playback machine.

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